APPENDIX G

Methods for determining Most Sensitive Riparian Areas in relation to Mid Columbia River Steelhead[1]

The MNF has identified stream reaches with valuable steelhead spawning habitat and high potential fish production CH that are typically most accessible and sensitive to livestock use. Because of the life-cycle stages of MCR steelhead relevant to the streams within Forest livestock allotments, the MNF decided to identify known and likely spawning areas for MCR Steelhead as "Most Sensitive Riparian Areas" (MSRA). MSRAs are characterized by low gradient (4% mapped or less), unconfined, open meadow reaches of a stream. Typically, Rosgen C and E channel types are unconfined stream channels with low gradients. Riparian areas adjacent to spawning areas can be more sensitive to impacts for MCR Steelhead because they occur on low gradient sections of a stream and often prove to be particularly attractive to grazing livestock as a water and shade source. The presence of MSRA in a pasture requires different grazing management strategies (e.g. reduced bank alteration thresholds or other actions).

The MSRA mapping exercise is an intrinsic potential model (IP) that identifies potential and current spawning areas as well as potential high quality rearing areas for Middle Columbia River steelhead Distinct Population Segment. IP models use geospatial data such as intrinsic topographic and climatic features to rank stream reaches in terms of their potential to provide habitat that can support high or low potential for fish or other species (Sheer et. al. 2008). The MNF used stream channel gradient and valley width topographic features as well as the location of ODFW index spawning reaches to identify the MSRAs. The decision-making process on model validation and determining whether a stream section is a MSRA is conducted in an interdisciplinary team approach, integrating range, hydrology, and/or fisheries staff. MSRAs are being used to narrow the focus of spawning surveys to best utilize time and resources. MSRAs can be adjusted or deleted from the mapping model if spawning surveys or model validation fail to detect the presence of spawning steelhead or cattle preference of these areas. IP analyses currently inform prioritization of sites for restoration or conservation, recovery planning, and the historic distribution of fish (Sheer et. al. 2008). IP analyses were used in the development of the recovery plan for the Middle Columbia River steelhead Distinct Population Segment.

The process and criteria used to determine MSRA follows:

1. Identify Forest Service and ODFW's Index spawning reaches as well as High Value spawning areas that are considered to be sensitive. Index stream reaches within the John Day were chosen in the 1960's and portray some of the best spawning habitat within the Basin. High Value spawning areas are those that are not considered to be index reaches but still provide key habitat to the species (professional judgment by Forest Service and ODFW Fisheries Biologists).

2. Further identify segments of stream that are 4% mapped or less in gradient (Potential Spawning Habitat) and are greater than 500' in length and or have multiple smaller segments that can be linked together.

3. Identify sensitive riparian areas in relation to MCRS and the eight litigated allotments on which potential injunctive relief was requested (2009 grazing season). This effort was later expanded to analyze all MCR Steelhead Critical Habitat within the Blue Mountain Ranger District (BMRD) in order to identify the most important areas for spawning steelhead within this area and adapt management actions accordingly.

4. Review currently proposed grazing strategies to see if sensitive areas are already being avoided or protected.

5. Make recommendations and seek agreement from permittees to protect Most Sensitive Riparian Areas that are not already being avoided or protected under currently proposed.

Reference: Sheer, Mindi B. et. al. 2008. Development and Management of Fish Intrinsic Potential Data and Methods: State of the IP 2008 Summary Report

[1]The Forest Service originally developed this process to respond to a court order in ONDA v. Tidwell (D. Or. CV-07-1871-HA) (Dkt. No. 277). The agency has revised the process for the current consultation by reviewing all MCR steelhead spawning/rearing critical habitat occurring on the BMRD portion of the John Day River subbasins for potential MSRA locations.